	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
1	**Relationship Between the Number of Wildlife Species Associated with Special Habitat Elements**																																						
2	**Meta Elements**					**Herb understory abundance**						**Shrub Understory abundance**				**Multi-story canop**		**Hardwoods**		**Forest/Non-forest interface**						**Decadence and defect trees**													
3				All Species	**Gross Total**	**102**						**110**				**113**		**47**		**81**						**79**													
4					Secondary	89						100				102		46		66						75													
5					Essential	31						18				17		1		4						15													
6																																							
7				SSC	Secondary	13						16				14		5		11						11													
8					Essential	5						2				6		0		0						2													
9																																							
10				Listed	Secondary	6						5				8		2		2						7													
11					Essential	2						1				0		0		1						0													
12	WHR Special Elements					Herbaceous layer		graminoids		forbs		shrub layer		shrubs		Tree Layer		trees, hardwood		tree/grass		tree/shrub		Shrub/grass		log/large		log/med		snag/large		snag/med		snag/small		trees w/broken top		trees w/cavities	
13					Secondarily		73		21		25		98		10		102		46		37		42		34		27		28		39		37		27		4		39
14					Essential	29		4		0		18		0		17		1		3		1		2		0		0		0		0		0		0		15	
15																																							
16				SSC	Secondarily		12		2		4		5		5		14		5		7		8		6		6		6		6		5		2		2		5
17					Essential	4		1		0		2		0		6		0		0		0		0		0		0		0		0		0		0		2	
18																																							
19				Listed	Secondarily		6		1		1		5		1		8		2		2		0		1		4		5		3		2		0		2		1
20					Essential	2		0		0		1		0		0		0		1		0		1		0		0		0		0		0		0		0	

The table above lists the numbers of forest dwelling wildlife species associated with habitat elements and meta-elements that may be affected by timber operations. We utilized the California Wildlife Habitat Relationships (WHR) system to develop a list of terrestrial wildlife species that are potentially affected by commercial timber harvest activities. The WHR program addresses 880 vertebrate species. We developed a list of the species known to utilize the thirteen forested habitat types that commercial timber operations generally occur within or potentially affect (all size stages and canopy closure classes of ponderosa pine, Sierran mixed conifer, Klamath mixed conifer, white fir, Douglas-fir, red fir, redwood, Jeffrey Pine, lodgepole pine, eastside pine, montane hardwood, montane hardwood conifer, and aspen). Riparian habitats were purposely left off this list. WHR indicates that 352 species are known to utilize the 13 forested habitat types.

WHR also has an extensive list of habitat elements. The importance of these elements to different wildlife species varies from non-important to the element being essential to the continued persistence of the species in the area. There are four classes used to rate elements: *not rated* – if the species uses the element, but the element does not enhance the capability of the habitat for the species; *preferable* – the element is used by the species to a greater degree than what would be expected from its habitat, but is not essential for the species presence; *secondarily essential* – an element must be present within the home range of the species for the species to be present unless it is compensated by the presence of another secondarily essential element that serves the same function to the species; and *essential* – the element must be present within the home range of a species for the species to be present.

The 124 habitat elements were reviewed to determine a subset of "special" habitat elements that could potentially be affected by timber harvest operations, and that could be reasonably quantified in the field (e.g., the element "fungi" was not included). Seventeen elements met these criteria: herbaceous layer, graminoids, forbs, shrub layer, shrubs, tree layer, trees-hardwood, tree/grass interface, tree/shrub interface, shrub/grass interface, log/large, log/small, snag/large, snag/medium, snag/small, trees with broken tops, and trees with cavities. The special elements that were essential or secondarily essential were recorded for each of the 352 species utilizing the chosen forested habitats

Within the 13 forested habitat types, 255 species (of the 352 total species) required at least one of these 17 elements at the essential or secondarily essential level. Additional review of the species associated with the forested habitats indicated that of the 20 listed species, 17 have are associated with one or more of these 17 elements. Of the 49 Species of Special Concern, 33 are associated one or more of the 17 elements.

The 17 habitat elements were combined into six Meta-Elements by aggregating similar elements into 6 broader categories: Herb understory abundance, shrub understory abundance, multi-story canopy, hardwoods, forest/non-forest interface, and decadence and defect trees.

DOWNLOAD THE FULL SPECIES LIST as a Microsoft Excel file (*meta.xls*)